

Sierra Nevada Space Systems

FAA Commercial Space Overview Presentation

February 2013



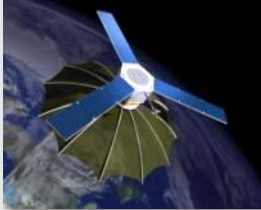
A Legacy of Heritage and Innovation

12 Key Facts

- Owned 100% by its Management
- 2,700 Employees
- 2012 Turnover US \$1.5 Billion
- Average 10 year growth of 20%
- Continuous Profits for 13 years
- Twice the Industry Average R&D
- 25 Years of Space Flight Heritage
- 420+ Space Missions
- 4,000 Products with No On-Orbit Failures
- Launching Every 3 Weeks on Avg.
- 70+ Successful NASA Missions



Spacecraft Systems



Multi-Mission Space Vehicle



DSX



TacSat-2



ORBCOMM Gen 2



ChipSat

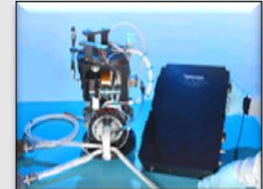
Space Technologies



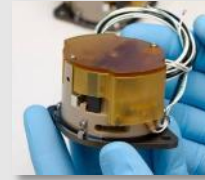
Deployable Structures



Docking and Capture



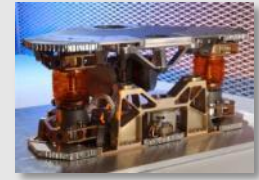
Pointing and Control



Restraint



Solar Array Drives



Gimbals

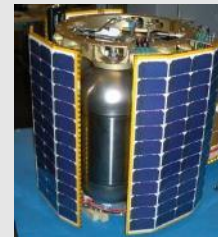
Space Exploration



Dream Chaser Vehicle
For Commercial Orbital
Transportation



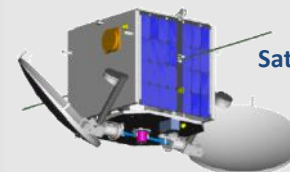
Propulsion Systems



Orbit Transfer



Green Hybrid
Engine

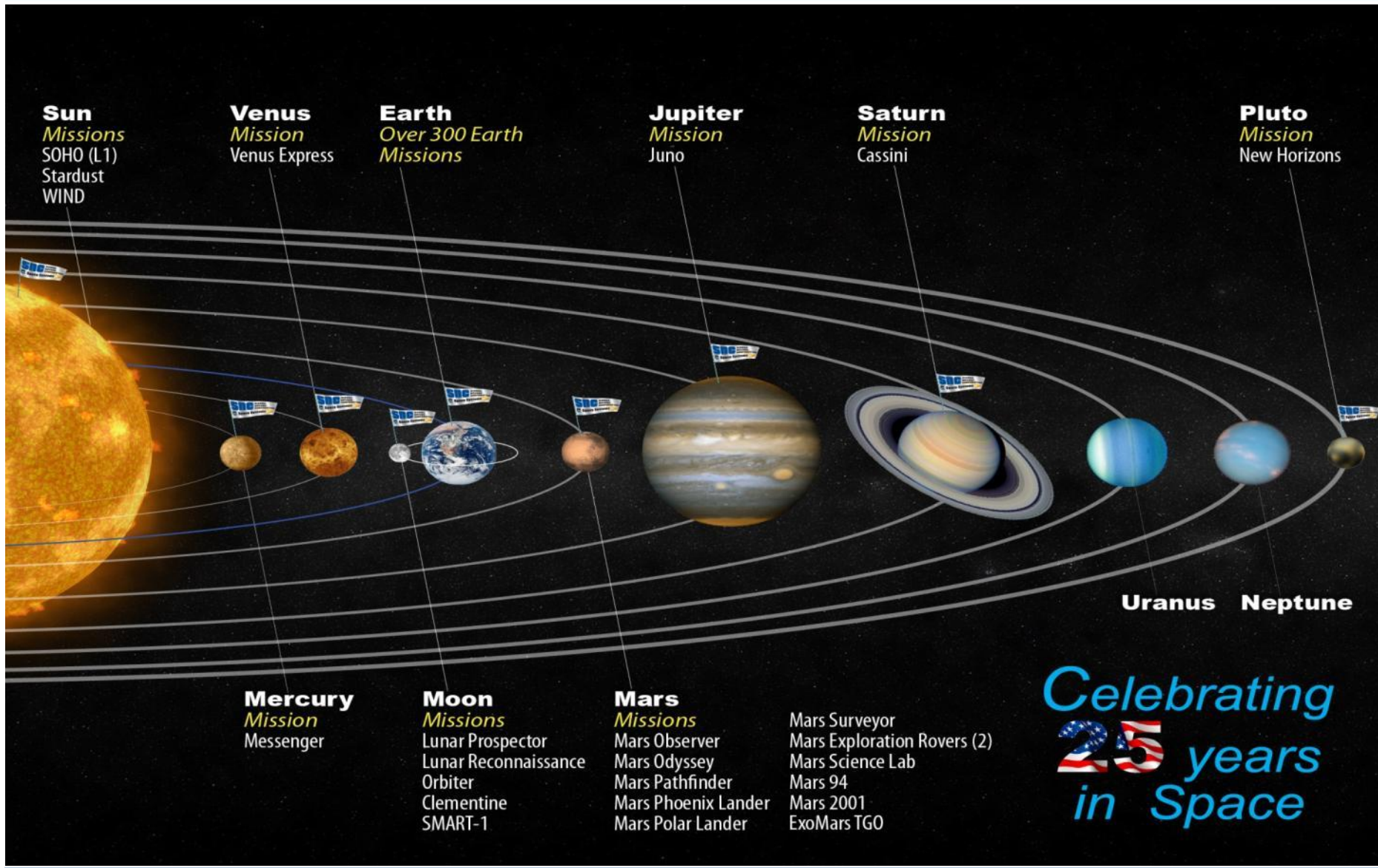


SolarThermal
Satellite Propulsion



Orbital & Suborbital
Launch

Visiting Seven Planets, the Moon and the Sun



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Dream Chaser Program Update





2012 Dream Chaser Highlights



- To date SNC has completed a total of 21 milestones under NASA's Commercial Crew Program
- SNC has been awarded \$347 Million in NASA Development Contracts

2012 highlights include:

- ✈ Completed 10 Major Milestones
- ✈ Completed ECLSS Human in the Loop testing
- ✈ Completed wind tunnel testing at NASA Langley's Research Center, Marshall Space Flight Center, and Texas A&M University
- ✈ Completed Preliminary Design
- ✈ Awarded CCIcap contract in August
- ✈ Awarded Certification Products Contract (CPC) in December
- ✈ Conducted multiple STEM outreach, education activities and speaking opportunities including participating the Space Shuttle Atlantis' retirement event
- ✈ Added over 50 new employees to the Dream Chaser Team





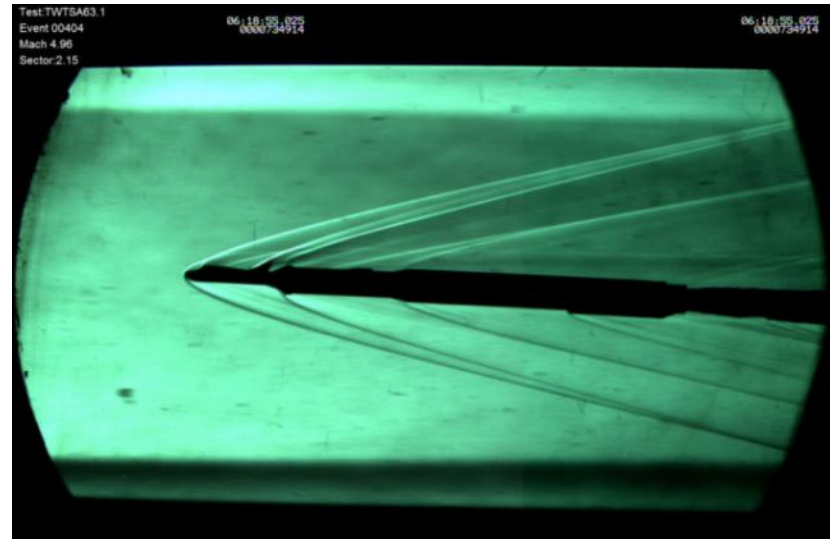
Wind Tunnel Testing



Integrated Stack Wind Tunnel Test



Configuration 1 at 73.5° roll angle



Integrated Stack Wind Tunnel Test



Slow Speed Wind Tunnel Test

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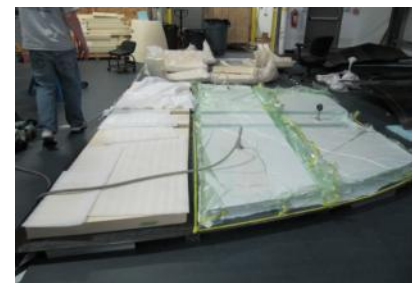




ETA Assembly



✈ The Engineering Test Article (ETA) was assembled and tested in Colorado



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Rocket Flight Motors



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Flight Structure Complete



- ✈ The Engineering Test Article completed Captive Carry test in May 2012
- ✈ Test conducted in Colorado



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Dream Chaser Captive Carry Test



- ✈ Captive Carry completed in preparation for the upcoming 2013 free flight test



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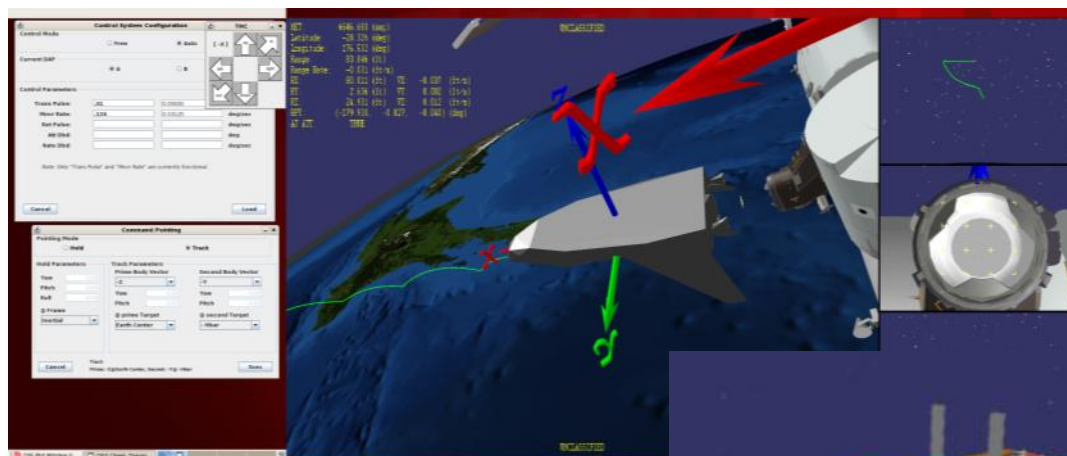




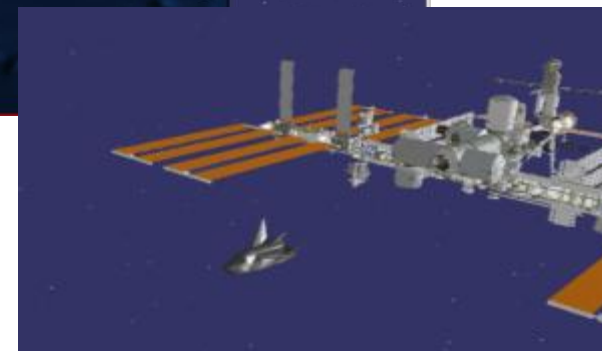
Other 2012 Highlights



Buffet Test Model



Dream Chaser Docking to ISS simulator



ECLSS Subsystem Testing



*Landing
Gear
Testing*

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Thank you, Space Shuttle Atlantis!



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2013 Dream Chaser Growth



- ✈ In early 2013 SNC will expand its operations with the opening of a new facilities for personnel and additional manufacturing space for the Dream Chaser Space System
 - ✈ New design, engineering and assembly building
 - ✈ Adding 50 to 100 new staff to the Dream Chaser Team
 - ✈ SNC will continue to grow partnerships with industry leaders to advance the Dream Chaser Space System. SNC is currently teamed with:
 - ✈ Seven NASA Center's
 - ✈ Multiple universities
 - ✈ Multiple world-class US and International industry partners











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2013 Dream Chaser Highlights



2013 Upcoming Milestones and Events

-  Complete Integrated System Safety Analysis Review
-  Complete first Flight Test of Dream Chaser . Scheduled first quarter 2013
 -  Test will be conducted at Dryden Flight Research Center
 -  Multiple flight tests will follow
-  Continue main hybrid rocket motor testing at SNC Poway, CA test site
-  Continue reaction control system testing
-  Continue STEM and community outreach
-  Other exciting news to come. Stay connected to SNC for all the latest program information!



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Continuing a Legacy



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